

Four new species of the genus *Oxycentrus* from Asia (Coleoptera: Carabidae: Harpalini)[※]

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アジア産 *Oxycentrus* 属の4新種 (鞘翅目：オサムシ科：ゴモクムシ族)

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抄録：アジアからの *Oxycentrus* 属の4新種, *Oxycentrus* (*Oxycentrus*) *scabericolis* (ブータン), *O. (O.) laetus* (ラオス), *O. (O.) sulciclypeus* (ミャンマー), *O. (O.) angustipennis* (カンボジア) を記載した。これらは全て前胸背中央と側溝との間に粗い点刻領域を持つ点で一種群を構成すると推定されるが, 分類学上の処置は全ての種を精査・分析する必要がある。

Abstract: Four new species of the genus *Oxycentrus* are described as *Oxycentrus* (*Oxycentrus*) *scabericolis* from Buthan, *O. (O.) laetus* from Laos, *O. (O.) sulciclypeus* from Myanmar, and *O. (O.) angustipennis* from Cambodia. These species are peculiar in having longitudinal coarse punctate areas a little apart from lateral furrows and can be estimated to be clustered one species group, but the taxonomic treatment needs examination and analysis of all species.

Key Words: Coleoptera; Carabidae; Harpalinae; Harpalini; *Oxycentrus*; new species; descriptions; Asia.

Species of the genus *Oxycentrus* Chaudoir, 1854 are widely distributed in Asia. Recently, many new species of the genus have been described in succession (Kirschenhofer, 1992; N. Ito, 1993, 1994, 1996, 1998, 2000, and 2006 etc.) and they are widely distributed from Tropic Asia to north China (Shaanxi and Beijing). I had an opportunity to examine much material of the genus and found four new species.

In this paper I am going to describe them and to discuss briefly taxonomic position of them. All holotypes will be preserved in the Osaka Museum of Natural History.

Method

Specimens are observed by binocular microscope under 10-80× magnification. Aedeagi are prepared in the Canada Balsam for observation of aedeagal inner sac.

Measurements of body parts are as following:

The length of body: the distance between the apex of labrum and the apices of elytra.

The width of body: the maximal transverse distance of body.

The width of head: the maximal transverse distance including compound eyes.

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The width of pronotum: the maximal transverse distance between sides.

The length of pronotum: the distance from apical edge to basal edge along the middle.

The length of elytra: the distance between the basal border and the apical tips.

The width of elytra: the maximal transverse distance between sides.

Descriptions

Oxycentrus (Oxycentrus) scaberlicollis N. Ito, sp. nov.

(Figs. 1 and 5)

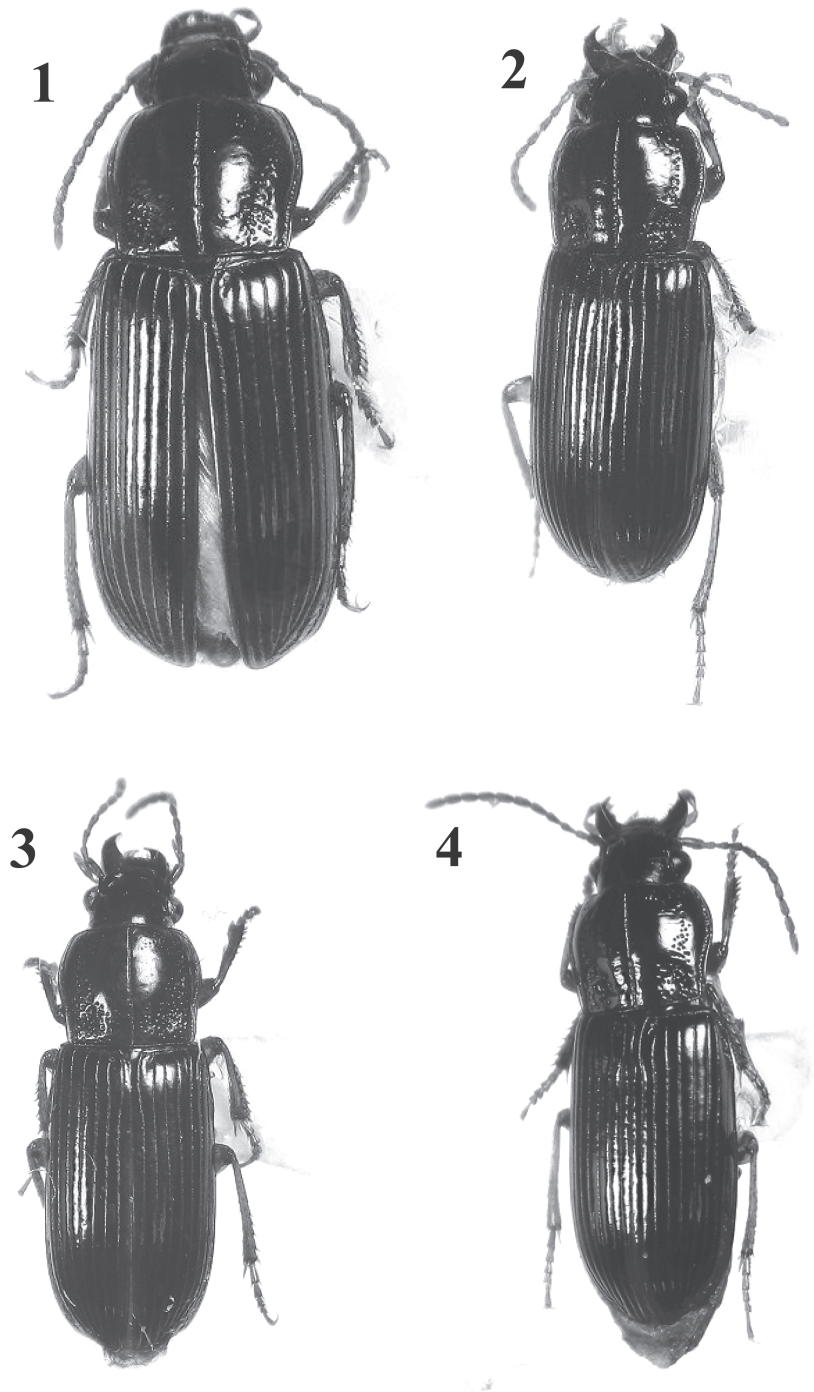
Body small, parallel-sided, elongate, pitchy black to brown, very shiny, without iridescent lustre; maxillary and labial palpi, antennae, and legs light brown, sutural intervals and lateral areas of elytra reddish brown, mandibles slightly brownish black.

Head moderate in width, two-thirds the width of the pronotal width, gently elevated, very sparsely and microscopically punctate; labrum transversely quadrate, narrowly rounded at apical corners; clypeus straight at apex, thick, in each side with a longitudinal deep groove which extends to frontal impression from setiferous pore; clypeal suture moderate in depth and linear; frontal impressions arcuately running backwards, deep throughout; eyes not large, but well prominent in hemisphere; temples very short, hardly visible above; genuine ventral margins of eyes adjoining buccal fissure; mandibles well elongate, clearly curved, acute at tips; antennae submoniliform, 3rd segment pubescent in apical half, as long as the 4th and one-fifth longer than the 2nd; labial palpi thickened in male, a little slimmer in female, 3rd segment as long as the 2nd; ligula parallel at side, truncate at apex; mentum regular-triangularly toothed at apex, epilobes rather wide; microsculpture invisible in 80× magnification.

Pronotum subquadrate, one-fourth wider than long, gently convex, smooth centrally on disc, coarsely punctate in basal foveae from which punctate areas extend forwards and are narrowly isolated from lateral furrows; sides thickly bordered, weakly arcuate in apical half, very shallowly sinuate before base; apex very shallowly emarginate, with border clear in lateral areas and obscure in middle; base 1.14-1.16 times as wide as apex, hardly arcuate, clearly bordered; apical angles slightly protruding, widely arcuate; basal angles a little larger than right angle, narrowly rounded at tips; lateral furrows carved in a line throughout; basal foveae each small, isolated from the lateral furrow by a weak hump; front and hind transverse impressions obsolete; median line deeply and widely engraved, reaching apex and base; microsculpture same in manner as head.

Elytra oblong, one-fifth wider than the pronotal width, three-fourths longer than wide, fairly convex; sides slightly arcuate in humeri, very obtusely blunt-angulate at the apical fifth, parallel to each other in middle, abruptly incurved and shallowly sinuate preapically; apices weakly rounded at margins, narrowly separated to each other, blunt at sutural angles; bases each not emarginate, humeral angles a little obtuse, with a sharp tooth at tip; striae wide and deep, clearly crenulate at the bottoms, scutellar striae very short; intervals weakly convex, without discal pores; marginal series very widely interrupted in middle, composed of (6-7) + (7-8) umbilicate pores; microsculpture rather clear, consisting of transverse lines. Hind wings entire.

Ventral surface almost smooth and not pubescent; metepisterna well elongate, about 1.70 times as long as wide; 6th abdominal sternite in male widely rounded and quadrisetose and in female almost truncate and bisetose at apical margin.



Figs. 1-4. Habitus of the Genus *Oxycentrus* spp.

Legs short; fore tibiae each gently dilated forwards, gently curved near apex at outer margin, quadri- to hexaspinous apico-externally, bearing sulcus armed with seriate short setae; tarsi not pubescent dorsally, not strongly expanded even in male, hind tarsi short, 0.77 times in male and 0.72-0.77 times as long as width of head including eyes, 1st segment one-ninth shorter than the 2nd and 3rd taken together, 2nd one fourth longer than the 3 and two-thirds longer than the 4th, claw segment bisetose along each ventral side.

Aedeagus (Fig. 5) gently arcuate, gradually thinned apicad from middle, acute at apex; apical lobe transverse, arucate at inner margin; inner sac armed with several seriate sclerites behind middle and with three ones near basal bulb.

Length 5.2-6.0 mm. Width: 2.0-2.2 mm.

Holotype: ♂, Thrumshinglar, Mongar City, Buthan, 20~27. VI. 2010, [OMNH-TI-511]. Paratypes: 1 ♂, 6 ♀, same data as the holotype; 1 ♂, 2 ♀, same locality as the holotype, 25. VI~10.VII. 2011.

This new species is similar to small type of *Oxycentrus melas* (Schmidt-Göbel) in general appearance, but the body is much smaller in size, the pronotum bears more coarse punctures which are present not only in basal foveae and but also laterally on disc, the elytra are without discal pores, and the aedeagus does not bear seriate large sclerite lengthwise along apical part.

The new species resembles also *Oxycentrus (O.) castaneus* Kirschenhofer, 1992, (N. Ito, 2012) in outline, but is distinguished from the latter by the body not clearly brown in colour but almost black, the pronotum bearing coarse punctate areas a little apart from lateral furrows and shallower basal foveae and thicker and deeper median line, and the aedeagus not thickened at tip and bearing several sclerites on inner sac.

Etymology: The specific name is derived from coarsely punctate pronotum in Latin.

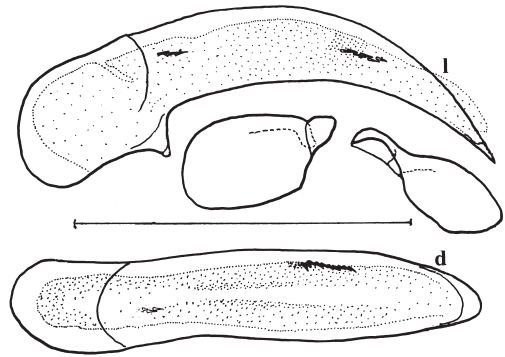


Fig. 5. Male genitalia of *Oxycentrus (Oxycentrus) scabericollis* sp. nov. l, lateral view; d, dorsal view. Scale: 1 mm.

Oxycentrus (Oxycentrus) laetus N. Ito, sp. nov.

(Figs. 2 and 6)

Body elongate, black or lightly brownish, very shiny, not iridescent; appendixes of buccal part yellowish brown, antennae and legs light reddish brown, labrum and mandibles dark brown.

Head relatively large, 0.71 times as wide as the pronotal width, gently elevated, impunctate; labrum transversely quadrate; clypeus truncate apically, weakly depressed along apex, setiferous pore at each side from which deep groove runs backwards and is fallen into frontal impression; clypeal suture straight and not deep; frontal impressions arcuately running basad, abruptly reduced near basal third; eyes large and well prominent; temples very short, one-fourth the eye length; genuine ventral margins of eyes adjoining buccal fissure; antennae submoniliform, 3rd segment one-seventh shorter than the 4th and one-third longer than the 2nd; mandibles long, strongly curved inwards, acute at tips; ligula obliquely truncate at apical corners, straight

between two setae; paraglossae narrow, prolonged forwards, clearly incurved; mentum smooth on surface, regular-triangular at median tooth, epilobes narrow; microsculpture unobservable in 80× magnification.

Pronotum quadrate, one-fifth wide than long, fairly convex, coarsely punctate narrowly between each side and median line, numbers of the punctures small; sides thickly bordered, weakly rounded in apical three-fifths, hardly arcuate-oblique in the remaining portions; apex very shallowly emarginate, feebly arcuate in middle where the margin is unbordered; base one-fifth wider than apex, almost straight, entirely bordered; apical angles not protrudent, narrowly rounded; basal angles a little obtuse, blunt at tips; lateral furrows engraved in a line; basal foveae each round and shallow, isolated from the furrows by hump; front and hind transverse impressions absent; median line reaching apex and base, deep, seriatly and rather coarsely punctate; microsculpture not detectable in 80× magnification.

Elytra well convex, elongate, oblong, two-thirds longer than wide, 1.22 times as wide as the pronotal width, impunctate; sides almost straight and slightly oblique in basal fifth, obtusely angularly curved here, abruptly incurved in apical fifth, shallowly sinuate preapically; apices narrowly rounded, separated from each other; bases each straight, with humeral angle obtuse, pointed and tiny-toothed; striae wide, deep, clearly crenulate in bottoms, scutellar striole short; intervals weakly convex, becoming a little convex apicad and basad, without discal pores on 3rd interval; marginal series widely interrupted medially, consisting of 7 + 7 umbilicate pores; microsculpture not observed in 80× magnification.

Hind wings fully developed.

Ventral surface coarsely punctate on lateral areas of pro- and mesosterna; metepisterna strongly narrowed backwards, 1.88 times as long as wide; 6th abdominal sternite in male bisetose at each side and widely and weakly rounded at apical margin, in female unisetose and rather clearly rounded.

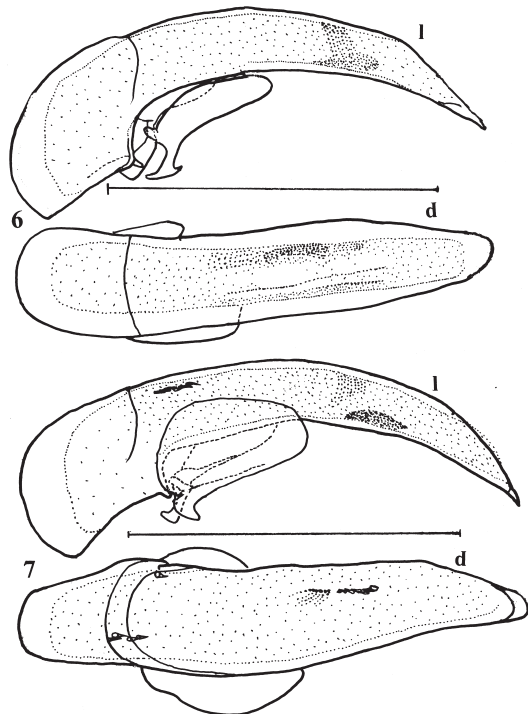
Fore tibiae each well dilated apicad, quadrispinous along apico-external margin, with seriatly setose sulcus; tarsi glabrous dorsally, hind tarsi 0.82 times in male as long as the width of head, 1st segment one-fifth shorter than the 2nd and 3rd taken together, three-fifths longer than the 2nd and twice the 4th, claw segment bisetose along each ventral margin.

Aedeagus (Fig. 6) thin, weakly arcuate, linearly thinned apicad from apical third, acute at apex; apical lobe transverse, widely rounded; inner sac not bearing any peg-shaped sclerites.

Length: 5.7 mm. Width: 2.8 mm.

Holotype: ♂, Ban Chak, Musang Kong City, Champasak Province, Laos, 2~21. VI. 2011, [OMNH-TI-512].

Remarks: This new species resembles the former new species, *Oxycentrus (Oxycentrus) scabericolis*, but the head is wider, the pronotum bears punctures less



Figs. 6 and 7. Male genitali of *Oxycentrus* spp. 6, *Oxycentrus (Oxycentrus) laetus* sp. nov.; 7, *O. (O.) sulciclypeus* l, lateral view; d, dorsal view. Scale: 1 mm..

in numbers, the elytra are shorter, and the aedeagus does not possess any peg-shaped sclerites on inner sac.
Etymology: The specific name is derived from the little and cute body shape in Latin.

***Oxycentrus (Oxycentrus) sulciclypeus* N. Ito, sp. nov.**

(Figs. 3 and 7)

Body elongate, parallel-sided, shiny, black to slightly brownish, without iridescent lustre; legs and appendixes of buccal part light to somewhat dark brown, antennae dark brown.

Head gently convex, impunctate, rather wide, almost seven-tenths as wide as the pronotal width (0.71-0.73 in ratio); interocular space a little more than two-thirds as wide as width of head; labrum transversely quadrate; clypeus even, smooth, with a seta situated in deep pore at each side, bearing a deep groove along ridge of the pore, the groove running to frontal impression; clypeal suture straight, deeply engraved; frontal impressions deep in apical two-thirds, thence abruptly shallowed or reduced to supraorbital grooves; eyes not large, hemispherically prominent; temples thin, briefly visible along prolongation of eye's outline in dorsal view; genuine ventral margins of eyes adjoining buccal fissure; antennae moniliform, 3rd segment one-tenth longer than the 4th and nearly 1.30 as long as than the 2nd; 3rd segment of labial palpus rather tumid, fairly pubescent; ligula parallel-sided, feebly arcuate at apex; paraglossae rather wide, surpassing beyond ligula; mentum clearly wrinkled, median tooth acute at apex, epilobes abruptly widened apicad; microsculpture invisible under 80× magnification.

Pronotum quadrate, 1.13-1.16 times as wide as long, weakly arcuate in apical two-thirds, thence barely convergent backwards; sides thickly bordered; apex shallowly bisinuate, bordered throughout, though obscurely so in middle; base 1.13-1.18 times as wide as apex, almost straight, with entire thin border; apical angles not protruding, somewhat narrowly rounded; basal angles hardly almost right, blunt at tips; front and hind transverse impressions obliterated; median line deeply and widely impressed, seriatly punctate; lateral furrows engraved in a line, coarsely and seriatly punctate; basal foveae shallow, circulate, isolated from lateral furrows; surface coarsely punctate in lateral portions and basal foveae, sometimes so in middle areas even in apex, smooth between the lateral portions and lateral furrows; microsculpture invisible under 80× magnification.

Elytra elongate-oblong, parallel-sided, 1.73-1.79 times as long as wide, one-fifth wider than the pronotal width, fairly convex, impunctate; sides slightly arcuate in humeri, very obtusely and angularly curved at basal fifth, abruptly incurved near apices, shallowly sinuate here; apices weakly arcuate, rounded at tips, narrowly separated from each other; bases each straight, feebly arcuate at side, with a small tooth at humeral angles; striae wide, clearly crenulate, scutellar striole short; intervals slightly elevated, discal pore lacking; marginal series interrupted in middle half, composed of 6 + 8 umbilicate pores; microsculpture consisting of vague transverse meshes. Hind wings entire.

Ventral surface coarsely punctate on lateral areas of pro- and mesosternum; metepisterna strongly narrowed backwards, twice as long as wide; 6th abdominal sternite in male bisetose at each side and widely and weakly rounded at apical margin, in female unisetose and rather clearly rounded.

Legs short; fore tibiae abruptly widened apicad, not sulcate, seriatly setose in apical two-fifths, apico-externally with five seriate spines; hind tarsi short, 0.81-0.85 times in male and 0.71-0.78 times in female

as long as the width of head, 1st segment short, three-fourths as long as the 2nd and 3rd taken together, 2nd segment as long as the 3rd and a half longer than the 4th, claw segment bisetose along both ventral margins.

Aedeagus (Fig. 7) thin, gently arcuate, acute at tip; dorsal orifice wide, two clusters of seriate peg-shaped sclerites situated a little behind middle and near basal bulb and one sclerite at opposite side of the latter cluster; apical lobe small, rounded at distal margin.

Length: 5.2-5.6 mm. Width: 1.8-2.1 mm

Holotype: ♂, Banmark, Saoing Prov., Myanmar, 1~19, [OMNH-TI-513]. VI. 2010. Paratypes: 1 ♂, 1 ♀, same data as the holotype; 3 ♀ ♀, Pha Dan, Myanmar, VI. 2010.

Remarks: This new species is allied to the former new species, *Oxycentrus (Oxycentrus) scabericolis*, but is distinguished from the latter by the clypeus bearing grooves not adjoining setiferous pores, the fore tibiae not sulcate dorsally, the elytra longer and microsculptured as meshes instead of lines, the metepisterna longer, and the aedeagus narrow at apical lobe and additionally bearing a sclerite at right side near basal bulb.

Etymology: The species is named after a groove inside each setiferous pore of clypeus.

***Oxycentrus (Oxycentrus) angustipennis* N. Ito, sp. nov.**

(Figs. 4 and 8)

Body narrow, oblong, subcylindrical, black, shiny, without iridescent lustre; appendixes of buccal part and legs yellowish brown, antennae, lateral margins of pronotum, and sutural intervals of elytra brown, mandibles dark reddish brown.

Head large, 0.70 times as wide as the pronotum, rather convex, impunctate; labrum transverse, narrowly rounded at apical corners; clypeus weakly and slightly triangularly arcuate, blunt at tip, transversely and weakly depressed, with a seta at large pore of each side, from which a clear groove runs backwards and is fused with frontal impression; clypeus deep and weakly arcuate; frontal impressions deep, arcuate outwards, obliterated in basal third; eyes large, hemispherical; temples thin and very short: genuine ventral margins of eyes not separated from buccal fissure; antennae in same manner of former three new species; ligula quadrate; paraglossae narrow, surpassing a little beyond ligula; labial palpi a little tumid in 3rd segments; mentum wrinkled in lateral lobes, epilobes gently widened apicad, median tooth regular-triangular; microsculpture invisible under 80× magnification.

Pronotum subquadrate, 1.16 times as wide as long, rather convex, more or less clearly arcuate from apex to basal third, thence hardly arcuately and weakly convergent basad; apex very shallowly and obtusely emarginate, unbordered at the bottom; base one-fifth wider than apex, barely bisinuate, arcuate in middle, clearly bordered throughout; apical angles not protrudent, widely arcuate; basal angles a little larger than right, narrowly rounded; lateral furrows slightly wide, rather coarsely punctate; basal foveae ill-defined, shallow,

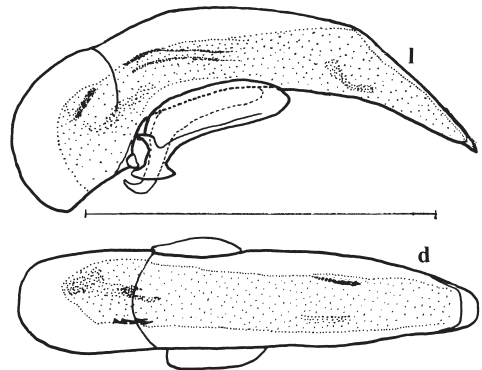


Fig. 8. Male genitalia of *Oxycentrus (Oxycentrus) angustipennis* sp. nov. l, lateral view; d, dorsal view. Scale: 1 mm.

rounded, separated from the furrows; front transverse impression vaguely engraved, the hind one obsolete; median line deep, with seriate punctures several in number and smaller than in the former three new species; dorsal surface coarsely punctate on portions isolated from lateral furrows and central area and in basal foveae; microsculpture unobservable under 80× magnification.

Elytra very elongate, four-fifths longer than wide, 1.17 times as wide as the pronotal width, impunctate, well convex; sides slightly arcuate in basal fifth, slightly angulate at the point, parallel to each other between here and apical fifth, shallowly sinuate before apices; apices separately rounded; bases each straight, with a small tooth at the end; striae wide, moderately deep, and minutely and rather vaguely crenulate, scutellar striae short; intervals hardly elevated on disc, gradually strongly so apicad and basad, discal pores of 3rd interval lacking; marginal series interrupted in middle half. composed of 6 + 9 umbilicate pores; microsculpture mostly invisible, vaguely visible in part as transverse meshes. Hind wings fully developed.

Ventral surface rugose on prepiterna, sparsely punctate on metasternum and lateral portions of metasternum; metepisterna very long and strongly convergent backwards, 2.5 times as long as wide; 6th abdominal sternite in male bisetose at each side and widely rounded at apical margin.

Legs short; fore tibiae each abruptly dilated apicad, dorsally sulcate, with a series of setae along the sulcus; tarsi glabrous, hind tarsi short, one-eleventh shorter than the width of head, 1st segment shorter than in usual, 0.71 times as long as the 2nd and 3rd taken together, 1.30 times as long as the 2nd and twice the 4th, claw segment bisetose along each ventral margin.

Aedeagus (Fig. 8) gently curved, linearly thinned apicad from apical two-fifths, pointed at tip; apical lobe transverse, subtrapezoidal; inner sac armed with two clusters of small peg-shaped sclerites, one of which is situated in apical two-fifths portion and another of which is done near boundary of basal bulb and apical part.

Length: 5.3 mm. Width: 1.9 mm.

Holotype: ♂, Choam Khsant, Preah Vihear Province, Cambodia, 7~11. V. 2011, [OMNH-TI-514].

Remarks: This new species is similar to the former new species, *Oxycentrus* (*Oxycentrus*) *laetus*, though the head bears deeper clypeal suture, the pronotum is narrower, the elytra are narrower and vaguely microsculptured, the metepisterna are longer, and the aedeagus is armed with two clusters of seriate sclerites instead of lacking. The new species resembles *Oxycentrus foveicollis* Bates, judging from his original description, but is distinguished from the latter by the apical margin of 6th abdominal sternite quadrisetose.

Etymology: The specific name is derived from the narrow elytra in Latin.

Systematic note

The new species described here are peculiar in having the following characteristics: The pronotum is coarsely punctate between the median line and lateral furrows, the elytra have sides that are weakly angulate at the apical fifth and lack discal pores. This combination of characteristics may be indicative of a species group, but at present some undescribed species remain and it is necessary to group other species as well. After further description and research, I hope to revise fully the *Oxycentrus*.

Acknowledgment

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